or chronic GVHD, CMV/other infections, graft rejection or overall survival. We conclude that assessment of MICA gene polymorphisms in MRD alloBMT pts may have important implications for predicting post-transplant outcomes. Those with a MICA dimorphism indicating weak binding affinity for the NKG2D activating receptor may have less alloreactive recipient immune effector cells that allow for more rapid PE. This group may also be less likely to generate graft-vs.-leukemia responses. Further investigation of this observation with larger study populations is warranted.

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LONG–TERM SURVIVAL OF ALLOGENEIC TRANSPLANTATION(ALLO SCT) IN SELECTED PATIENTS WITH MULTIPLE MYELOMA (MM): DISEASE FREE SURVIVAL AT TWO YEARS MAY INDICATE LONG TERM SURVIVAL

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Introduction: Allo SCT offers long term control and in some cases cure in patients with MM. In this study we reviewed our experience at H. Lee Moffitt Cancer Center, of Allo SCT for MM and examined indicators of long term survival.

Patient and Methods: A retrospective analysis was performed on patients with MM who underwent allo SCT between 1996 to 2008 at our institution. Kaplan-Meier estimates were used to determine overall and progression free survival.

Results: Thirty-one patients (18 males and 13 females) underwent AlloSCT for MM between 1996 and 2008. The median age was 45 years (range 29–63). The majority (64%) were Durie-Salmon stage III at diagnosis. Most patients (74%) received at least 2 lines of prior treatment and 16 received prior autologous transplant including 4 who received 2 autotransplants(2 out 4 were tandem).Disease status prior to Allo SCT included 4 CR, 3 VGPR, 11 PR and 5 <PR in the data available in 23 patients. Ten patients had genetic high risk features. 18 patients received matched related donors grafts (one syngeneic) and 9 received matched unrelated donor grafts and 2 received unrelated donors grafts mismatched at one allele. Eight patients got TBI containing regimens and 2 patients Bu-Cy prior to 2002. Subsequently either busulfan-fludarabine (5 patients) or melphalan-fludarabine (12 patients) were used as conditioning regimens. GVHD prophylaxis was tacrolimus plus methotrexate or mycophenolate. Incidence of acute GVHD requiring treatment was 54.8% and chronic GVHD was 42.8%. Non-relapse mortality at 100 days was 22.5%. Post allograft the response levels were 12 CR, 3 VGPR, 2 PR, 7 <PR. Out of the 12 patients who achieved CR post allograft 2 were VGPR, 2 were PR and 1 was progressive disease prior to allogeneic transplant. Three patients were in continuing CR. Overall survival at 1 year, 2 year, 5 year was 77%, 68%, and 54% respectively. Event free survival at 1 year, 2 year, 5 year was 57%, 46% and 46% respectively.

Conclusions: AlloSCT in MM allow for long term remissions and survival in over 50 % of patients treated with this approach. Relapses are rare in those patients who remain in remission after 2 years. A majority (4 out of 5 patients) of the long term survivors (>100 months) did get TBI containing regimens in this analysis. However the melphalan-fludarabine patients look promising, but require longer follow up. A multivariate analysis of the prognostic factors is ongoing.

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FOLLOW-UP OUTCOMES OF RELATED AND UNRELATED DONOR HEMATOPOIETIC CELL TRANSPLANTATION FOR BETA-THALASSEMIA PATIENTS

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Beta-thalassemia diseases are very prevalent in Thailand. Allogeneic hematopoietic stem cell transplantation (HCT) is the only acceptable therapeutic method to cure them. In this case-series study there were 61 patients, one of which underwent HCTs twice (BMT, then PBSCT) from same sibling donor. So, total 62 HCTs were performed in single medical institute in Bangkok from July 1999 to June 2008, including 42 BMTs, 9 PBSCTs, and 11 CBTs. The detailed diagnoses were 54 cases of beta-thalassemia/hemoglobin E, 6 of homozygous beta-thalassemia, and 1 of EFBart's disease. Patients' age at transplant varied from 18 months to 14 years 8 months with median of 6 years. According to Pesaro classification, there were 25 class I, 27 class II, and 9 class III patients. Considering by donor types, there were 34 patients in HLA-matched sibling, 2 in mismatched related cord blood, 22 in matched unrelated, 2 in one-antigen mismatched unrelated cord blood, and 1 in mismatched unrelated donor HCT groups. The mainstay of conditioning regimen contained busulfan (oral or intravenous), cyclophosphamide, and anti-thymocyte globulin. Fludarabine was utilized in addtion for most of unrelated donor HCT. Cyclosporine and methotrexate were used as GVHD prophylaxis in matched related group, while tacrolimus was used instead of cyclosporine in unrelated group. 50 patients achieved donor engraftment and were considered as cured. 5 patients were alive but still with disease, and 6 patients died. Among 11 engrafted patients who previously developed acute GVHD, only 1 matched-sibling PBSCT patient remained having chronic extensive GVHD. Median follow-up time for surviving 55 patients was 3 years 3 months (range 4 months to 9 years 3months). To date the overall (OS) and disease-free survival (DFS) for all patients were 90.2% and 82%, respectively. Categorized by risk class, the OS and DFS for class I patients were 92% and 88%, class II were 100% and 92.6%, and class III were 55.6% and 33.3%, respectively. Classified by degree of HLA match, the OS and DFS for complete-matched patients (n = 56) were 92.9% and 87.5%, and mismatched patients (n = 5) were 60% and 20%, respectively. In group of HLA-matched HCT, the OS and DFS for patients receiving related donor stem cell (n = 34) were 97.1% and 94.1%, and ones getting unrelated donor stem cell (n = 22) were 90.9% and 81.8%, respectively. The follow-up outcomes of these thalassemia patients have been convincing as favorable and comparable to other studies.

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INTENSIVE PREPARATIVE REGIMEN EMPLOYING BUSULFAN, CYCLOPHOSPHAMIDE, AND TOTAL BODY IRRADIATION FOLLOWED BY ALLOGENEIC STEM CELL TRANSPLANTATION FOR MYELOID MALIGNANCIES

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Purpose: Intensive conditioning regimens given prior to allogeneic stem cell transplantation (allo-SCT) is able to bring durable remissions but increase treatment-related mortality (TRM). We retrospectively evaluated the efficacy and safety of a conditioning regimen consisting of busulfan (BU), cyclophosphamide (CY), and total body irradiation (TBI) for patients with myeloid malignancies.

Patients and methods: From November 1990 to February 2008, 85 patients (AML 38, CML 29, MDS 18) received BU (8 mg/kg), CY (120 mg/kg), and TBI (10 Gy) followed by related (n = 46) or unrelated (n = 39) allo-SCT. Patients with AML in 1st or 2nd remission, CML in chronic phase, and MDS (less than 5% marrow blasts) were defined as having a standard-risk group (n = 55), and patients with advanced diseases were defined as having a high-risk group (n = 30).

Results: Median follow-up was 8.4 (0.3–18.9) years, and median age of patients was 35 (17–55) years old. The 8-year actuarial relapse-free survival rates for all patients, standard-risk patients and high-risk patients were 54%, 62% and 36%, respectively. Probability of relapse rates for all patients, standard-risk patients and high-risk patients were 22%, 14% and 42%, respectively. Hepatic veno-occlusive disease was occurred in 3 patients (4%), and one of them died of the disease. The cumulative incidence of TRM of all patients was 26% (standard-risk 25%, high-risk 27%). Because cytomegalovirus (CMV) disease was a major cause of mortality following allo-SCT before 1997, the incidence of TRM decreased to 13% (standard-risk 10%, high-risk 16%) in the era of cytomegalovirus preemptive therapy and no patient has died of CMV disease since 1998.

Conclusion: These results show that the combination of BU, CY, and TBI seems to be one of effective intensive conditioning regimens for allo-SCT in myeloid leukemia with a low TRM in the era of cytomegalovirus preemptive therapy.